

ABSTRACT

All fiber construction Gires-Tournois interferometers for chromatic dispersion compensation of an optical signal are provided. The interferometers are made of overlapping chirped fiber Bragg gratings having a wide band reflectivity response. In one embodiment, a plurality of FBG interferometers can be cascaded for providing the chromatic dispersion compensation. In another embodiment, an FBG dispersion compensator provided with a pair of multi-cavity FBG interferometers is also provided. The dispersion compensator is provided with two temperature controlling means, each being operationally connected to one of the multi-cavity interferometer for thermo-optically shifting a spectral response thereof, thereby providing a tunable dispersion compensator capable of compensating for all orders of dispersion.